ATTACHMENT 91

UNITED STATES DISTRICT COURT
FOR THE NORTHERN DISTRICT OF CALIFORNIA
SAN FRANCISCO DIVISION

SURGICAL INSTRUMENT SERVICE COMPANY, INC., Plaintiff, vs. INTUITIVE SURGICAL, INC., Defendant.	Case No. 3:21-cv-03496-VC

HIGHLY CONFIDENTIAL, ATTORNEYS' EYES ONLY DEPOSITION OF:
KURT HUMPHREY
WEDNESDAY, MARCH 15, 2023
10:25 A.M. (MST)

Reported by: GINA M. CLOUD
CSR No. 6315

industry dealing with the development of commercial products, these are the key factors that generally determine the parameters for design of any product or system.

Q. I want to drill down on the meaning of those a little bit as you use them here. So based on your experience generally when you say performance/reliability, can that -- can performance/reliability needs be different in different contexts? 13:48:03 13:48:19

A. Certainly. I would I guess go back to my prior experience in military and aerospace avionics products, as well as automotive products. They have varying degrees of performance requirements, reliability requirements, depending upon the application. 13:48:52

Q. So it depends on -- the performance or reliability requirements for given products depend on the application in part?

A. Yes. 13:49:05

Q. Depending on the application, could performance/reliability requirements include certain memory parameters?

A. Yes, it can --

Q. What about -- sorry, I didn't mean to 13:49:27

interrupt you. I thought you were done.

A. Memory size, access times, and reliability.

Q. The last one you said was reliability.

A. Yes. I'm not sure if that was included in your question or not, but it certainly is a big factor. 13:49:58

Q. Is another factor processing power or do you include that as something subsumed within access times?

A. No. I mean, bandwidth, data rates are certainly -- can certainly be important in some application. 13:50:15

Q. What about consistency on detection of electrical contacts, is that encompassed in what you mean by reliability? 13:50:39

A. Yes.

Q. So consistency on detection of electrical contacts could be a factor in design choice?

A. Certainly. I mean, the packaging for microelectronics of the connections between components in systems, whether they're on printed circuit boards or mounted in the systems, I mean depending on the application, certainly electrical connectivity for any electronic product is important. 13:51:07

Q. And then the next key factor you list is 13:51:34

A. Okay. I'm getting there. This is 92, 94, okay. 094, correct. Yes.

Q. And just to make sure we're on the same page, it says: "Instrument Data Chips: RFID (IS4000) vs. Dallas (IS3000)" at the top. 14:28:48

Is that the page you're on?

A. Yes.

Q. Does this look familiar?

A. Yes.

Q. So this is a chart that appears to be 14:28:59 comparing the RFID chip in the X/Xi instruments to the Dallas chips in the S/Si instruments, correct?

A. Yes.

Q. And if you look at the middle row that says "Storage Space," do you see that? 14:29:17

A. Yes.

Q. Under the RFID (IS4000) chip, it says "8k bytes."

A. Yes.

Q. And under the Dallas chip, it says 14:29:27 "2k bytes."

A. Yes.

Q. Does that refresh your memory of the memory size difference between the Atmel CryptoRF chip used in the X/Xi EndoWrists and the Dallas chip used in 14:29:48

the S/Si EndoWrists?

A. Yes, that sounds about right, 4 to 1.

Q. So picking up on the math calculations we performed earlier, so 8,000 bytes would be approximately 64,000 bits, right? 14:30:06

A. Right.

Q. That would be the memory storage space for the RFID chip in the X/Xi instruments?

A. Correct.

Q. And the Dallas chip has approximately 16,000 bits? 14:30:17

A. Correct.

MS. CAHOY: So with that, Miriam, could we pull up -- we can close that exhibit. Could we mark Exhibit 319, and let's go with tab 12, please. 14:30:59

(The document referred to was marked as Exhibit 319 for identification and is attached hereto.)

MS. ARGHAVANI: Should be introduced.

BY MS. CAHOY:

Q. So, Mr. Humphrey, I'm marking as Exhibit 319 a document that ends in the first page on -- the Bates stamp on the first page is Intuitive-02068686.

A. I'm trying to load it.

Q. This is a document that I'll represent to 14:32:01

you, it appears that you cite on -- in footnote 52 of your opening report. So that's in paragraph 51, page 21, footnote 52, where it says 30(b)(6) deposition of Grant Duque, Exhibit 266, Intuitive-02068686.

A. Paragraph 51, you say? 14:32:33

Q. Yes. Paragraph 51, footnote 52, which is right at the end of that paragraph.

A. Yes, okay.

Q. Has that one loaded for you?

A. Yes, it's loaded. 14:33:01

Q. Do you recognize this document as a 2011 e-mail produced by Intuitive that you reviewed in connection with preparing your report?

A. Yes.

Q. If you look down towards the bottom of that document, the original document says from Thomas Cooper, Monday, May 23, 2011, and then "to" and with some other names. 14:33:20

Do you see that?

A. Yes. 14:33:35

Q. If you go down almost to the bottom, there is a numbered list and there is a number 5 that says: "Our 64k bit requirement is a bit unusual."

Do you see that?

A. Yes, okay. 14:34:00

Q. What is your understanding of what the reference to 64k bit requirement means?
A. The size of the memory.
Q. So it's referring to a 64,000 bit requirement, correct? 14:34:23
A. Yes.
Q. And the CryptoRF Atmel chip has a 64,000 bit memory?
A. Yes, that's correct.
Q. And the Dallas chip that was used in the 14:34:39
S/Si instruments does not have a 64,000 bit memory, correct?
A. That's correct. It's not clear to me in this reference as to what product they're referring
to. The rest of that sentence refers to Ducati and 14:35:09
Orion, but I guess I think Orion is their name for one of the X or Xi instruments.
Q. But you're not sure what this e-mail is discussing?
A. I'm not sure what the 64-bit requirement, 14:35:37
what's the need for that? It says it's a bit unusual, but I don't know much or -- I'm not sure why the writer is using that terminology, that description.
Q. So the writer is describing a 64k bit 14:35:58

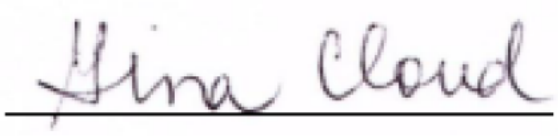
I, GINA M. CLOUD, a certified shorthand reporter for the State of California, do hereby certify:

That prior to being examined, the witness named in the foregoing deposition, was by me duly sworn to testify the truth, the whole truth, and nothing but the truth pursuant to Section No. 2093 of the Code of Civil Procedure;

That said deposition was taken before me pursuant to notice, at the time and place therein set forth, and was taken down by me in shorthand and thereafter reduced to typewriting via computer-aided transcription under my direction;

I further certify that I am neither counsel for, nor related to, any party to said action, nor in anywise interested in the outcome thereof.

IN WITNESS WHEREOF, I have hereunto subscribed my name this 20th day of March, 2023.



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